Remarks and Arguments

Claims 26-68 were pending in this application. Claims 45-68 have been withdrawn from consideration. Claims 28 and 41 have been amended. Claims 76 and 77 have been added.

The claim listing has been updated to show the correct identifier of "withdrawn" for claims 45-68.

Objection to the Drawings

The Examiner has objected to Figure 2 because the numerical label "3" is not described in the specification. Applicants respectfully submit that the label "3" in conjunction with the accompanying arrows touching a line is a standard convention for indicating a viewing surface. (37 C.F.R. § 1.84(r)(2).) Thus, the "3" indicates the viewing orientation of the bottle of FIG. 2 as shown in FIG. 3. (Specification at p. 11, ll. 6-7, "FIG. 3 is a horizontal cross-section taken along line 3-3 of FIG. 2.".)

Objection to the Claims

The Examiner has objected to claim 41 because the term "and" is allegedly improper when used in an alternative expression. Applicants respectfully disagree as groupings of species are forms of alternative expressions, and such groupings are accepted by the patent office to include the term "and." (M.P.E.P. § 2173.05(h).) For example, Markush groupings recite the term "and" to define the entire group of choice. Nonetheless, to expedite prosecution, Applicants have amended claim 41 to delete "cobalt carboxylate and cobalt neodecanoate." Claim 41 now recites "wherein the transition metal is cobalt carboxylate." New claims 76 and 77 have been added to recite "cobalt carboxylate" and "cobalt neodecanoate" individually.

The Examiner has objected to claim 28 for allegedly failing to provide antecedent basis for "solid-stated polymer," as claim 28 recites "the step of solid-stating the polymer." It is well-settled that the failure to provide explicit antecedent basis does not necessarily render a claim indefinite because "inherent components of elements recited

have antecedent basis in the recitation of the components themselves." (M.P.E.P. § 2173.05(e).) One of ordinary skill in the art would readily appreciate that a step of solid-stating a polymer would result in a solid-stated polymer, and thus the limitation "the step of solid-stating the polymer" inherently provides antecedent basis for "solid-stated polymer."

Nonetheless, to expedite prosecution, claim 28 has been amended to recite "the step of solid-stating the polymer to form a solid-stated polymer." Since the added limitation was inherent in the claim, the claim scope has not been narrowed by this amendment.

In view of these remarks and amendments, Applicants respectfully request withdrawal of these objections.

Rejections under 35 U.S.C. § 103

Kim and Pushee

Claims 28-44 have been rejected under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 6,239,210 to Kim et al. ("Kim") in view of U.S. Patent No. 4,392,804 to Pushee et al. ("Pushee"). Applicants respectfully traverse this rejection.

The Examiner alleges that Kim discloses an oxygen barrier and oxygen absorbing composition comprising a polyester, a blend of xylylene group-containing polyamide, and at least 49 ppm of cobalt. (*Office Action* at p. 4.) It is admitted, however, that Kim fails to disclose solid stating a polymer under a low oxygen content atmosphere. (*Id.*) To remedy this deficiency, Pushee is cited for disclosing the solid-stating of PET, which would allegedly "intrinsically aid in enhancing the oxygen-scavenging capability." (*Id.*) The Examiner concludes that "it would have been obvious to add a step of solid stating to the method of Kim et al. to therefore increase oxygen scavenging performance." (*Id.*)

Applicants respectfully disagree that it would have been obvious to perform a solid-stating step, as disclosed by Pushee, on the composition of Kim. Kim is directed to oxygen barrier and oxygen absorbing compositions comprising blends of xylylene

group-containing polyamides, polyesters, and cobalt octoate. (*Kim* at abstract.) However, orienting blends of PET and MXD6 causes haze due to refractive index changes and enlarged domains of MXD6. (*Id.* at col. 8, ll. 53-57.) Kim's solution involves the use of an extrusion blow molding process where the bottle is produced from a polymer in its molten state to minimize orientation. (*Id.* at col. 8, ll. 58-63.) According to Kim, "light passing through unoriented MXD6 structures does not scatter and produce haze." (*Id.* at col. 8, ll. 66-67.)

Pushee describes a method of increasing the intrinsic viscosity of resins, particularly PET. (*Pushee* at abstract.) According to Pushee, high orientation is required for PET bottles to provide sufficient strength with a minimum amount of resin, and intrinsic viscosity of the resin may be critical. (*Id.* at col. 1, ll. 20-25.) Pushee teaches heating the PET to effect polymerization (increase chain growth) in the presence of either vacuum or an inert gas. (*Id.* at col. 1, ll. 31-40.) Such polymerization can raise the intrinsic viscosity of the PET. (*Id.* at col. 1, ll. 41-47.) Thus, Pushee teaches that a high intrinsic viscosity is critical to maintain the high orientation of PET, and intrinsic viscosity can be increased by heating the resin.

Applicants respectfully submit that one of ordinary skill in the art would not combine the teachings of Kim and Pushee. Kim states that prior art PET/MXD6 blends suffer from haze, and teaches minimizing the orientation of the resin to reduce haze. In contrast, Pushee teaches a method of achieving high orientation that is necessary for PET by increasing the intrinsic viscosity via heating. One of ordinary skill in the art would avoid Pushee's heating process on the resins of Kim to avoid the haze problem and instead, use the extrusion blow molding process recommended by Kim. The fact that the references teach opposing limits of orientation would preclude the skilled artisan from combining their teachings.

Because Kim and Pushee teach away from each other, Applicants respectfully submit that the Examiner has failed to establish a *prima facie* case of obviousness and request withdrawal of this rejection.

Kim and Burkett

Claims 28-44 have been rejected under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 6,239,210 to Kim et al. ("Kim") in view of U.S. Patent No. 5,539,078 to Burkett et al. ("Burkett"). Applicants respectfully traverse this rejection.

The Examiner again cites Kim for teaching oxygen barrier and oxygen absorbing resins, as discussed above, yet admits that Kim fails to teach drying of the resins. (*Office Action* at p. 5.) Burkett is cited for allegedly teaching that crystallizable polymers with high molecular weights can be obtained by subjecting the resins to a solid-stating process below the melting point of the polymer in the presence of a vacuum or a nitrogen purge. (*Id.*)

Kim is as discussed above. Burkett teaches a process for manufacturing a linear random polyester copolymer. (*Burkett* at col. 1, ll. 5-6.) Optionally, the molecular weight of the polymers can be increased by a solid state polycondensation reaction in the presence of an inert gas until the intrinsic viscosity reaches a desired level. (*Id.* at col. 7, ll. 23-31.) Burkett teaches that intrinsic viscosity is often used as an indication of the molecular weight of polymers. (*Id.* at col. 5, ll. 63-64.)

Applicants respectfully disagree that one of ordinary skill in the art would combine the teachings of Burkett and Kim. As discussed for Pushee above, the polycondensation process of Burkett increases the intrinsic viscosity of the resin. One of ordinary skill in the art would readily appreciate that increasing the intrinsic viscosity helps achieve high orientation. In contrast, Kim teaches minimizing the orientation to reduce the amount of haze. One of ordinary skill in the art would not use the process of Burkett on Kim's resin, as this process would increase the orientation of the resin and would increase the undesirable haze.

Because Kim and Burkett teach away from each other, Applicants respectfully submit that a *prima facie* case of obviousness has not been established and request withdrawal of this rejection.

Reconsideration

It is believed that all claims of the present application are now in condition for allowance.

Reconsideration of this application is respectfully requested. If the Examiner believes that a teleconference would expedite prosecution of the present application the Examiner is invited to call the Applicant's undersigned attorney at the Examiner's earliest convenience.

Any amendments or cancellation or submissions with respect to the claims herein is made without prejudice and is not an admission that said canceled or amended or otherwise affected subject matter is not patentable. Applicant reserves the right to pursue canceled or amended subject matter in one or more continuation, divisional or continuation-in-part applications.

To the extent that Applicant has not addressed one or more assertions of the Examiner because the foregoing response is sufficient, this is not an admission by Applicant as to the accuracy of such assertions.

Please grant any extensions of time required to enter this response and charge any fees in addition to fees submitted herewith that may be required to enter/allow this response and any accompanying papers to our deposit account 02-3038 and credit any overpayments thereto.

Respectfully submitted,

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